

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

235. A method for identifying a compound that putatively modulates or elicits human T1R1-associated taste in a human subject comprising:

(i) screening one or more compounds in a binding assay which identifies compounds that specifically bind to a human T1R1 polypeptide or which modulate (inhibit or enhance) the specific binding of another compound that specifically binds to a human T1R1 polypeptide wherein said T1R1 polypeptide is selected from the group consisting of:

(a) a human T1R1 polypeptide having the amino acid sequence encoded by SEQ. ID. NO: 17;

(b) a human T1R1 polypeptide encoded by a nucleic acid sequence that specifically hybridizes to the hT1R1 nucleic acid sequence contained in SEQ. ID. NO: 15 or 16 under stringent hybridization conditions;

(c) a human T1R1 polypeptide which has an amino acid sequence that possesses at least 90% sequence identity to the amino acid sequence contained in SEQ. ID. NO: 17 or a functional fragment thereof;

(d) a human T1R1 polypeptide that is encoded by a fragment of the coding region of the nucleic acid sequence having SEQ. ID. NO: 15 or 16

comprising at least 500 contiguous nucleotides of said sequence or a fragment of a T1R1 polypeptide according to (a) which is at least 50 amino acids in length;

(ii) identifying a compound that putatively modulates or elicits human T1R1-associated taste based its specific binding to a human T1R1 polypeptide according to (a), (b), (c), or (d), or its modulation (inhibition or enhancement) of the specific binding of another compound to a T1R1 polypeptide according to (a), (b), (c), or (d).

236. The method of claim 235, wherein the human T1R1 polypeptide has the amino acid sequence contained in SEQ. ID. NO: 17.

237. The method of claim 235, wherein the human T1R1 polypeptide has an amino acid sequence possesses at least 90% sequence identity to the polypeptide contained in SEQ. ID. NO: 17.

238. The method of claim 237, wherein the T1R1 polypeptide has an amino acid sequence that possesses at least 95% sequence identity to the polypeptide contained in SEQ. ID. NO: 17.

239. The method of claim 237, wherein the T1R1 polypeptide has an amino acid sequence that possesses at least 96% sequence identity to the polypeptide contained in SEQ. ID. NO: 17.

240. The method of claim 237, wherein the T1R1 polypeptide has an amino acid sequence that possesses at least 97% sequence identity to the polypeptide contained in SEQ. ID. NO: 17.

241. The method of claim 237, wherein the T1R1 polypeptide has an amino acid sequence that possesses at least 98% sequence identity to the polypeptide contained in SEQ. ID. NO: 17.

242. The method of claim 237, wherein the T1R1 polypeptide has an amino acid sequence that possesses at least 99% sequence identity to the polypeptide contained in SEQ. ID. NO: 17.

243. The method of claim 235, wherein the T1R1 polypeptide is encoded by a nucleic acid sequence that hybridizes to the nucleic acid sequence contained in SEQ. ID. NO: 15 or 16, or a fragment thereof which is at least 500 nucleotides, under stringent hybridization conditions.

244. The method of claim 243, wherein the T1R1 polypeptide is encoded by a sequence that comprises at least 1000 nucleotides.

245. The method of claim 235, wherein said T1R1 polypeptide is attached to a solid phase.

246. The method of claim 235, wherein said T1R1 polypeptide is in solution.

247. The method of claim 235, wherein said T1R1 polypeptide is comprised in a lipid bilayer or vesicle.

248. The method of claim 235, wherein said T1R1 polypeptide is expressed by a cell.

249. The method of claim 235, wherein said T1R1 polypeptide is comprised on a cell membrane.

250. The method of claim 248, wherein the cell is a prokaryotic cell.

251. The method of claim 248, wherein the cell is a eukaryotic cell.

252. The method of claim 251, wherein said cell is a yeast, insect, amphibian or mammalian cell.

253. The method of claim 252, wherein the cell is a CHO cell, HEK-293 cell, COS cell, or Xenopus oocyte.

254. The method of claims 235, wherein binding to the T1R1 polypeptide results in a detectable change in T1R1 polypeptide conformation.

255. The method of claim 254, wherein said change is detected by NMR spectroscopy.

256. The method of claim 254, wherein said change is detected by fluorescence spectroscopy.

257. The method of claim 248, wherein said cell also expresses a G protein that couples to said T1R1 polypeptide.

258. The method of claim 257, wherein said G protein is $G_{\alpha 15}$, $G_{\alpha 16}$ or gustducin.

259. The method of claim 235, wherein the binding assay that detects specific binding includes the use of a label.

260. The method of claim 259, wherein said label is an enzyme, radionuclide, chemiluminescent compound or fluorescent compound.

261. The method of claim 235, wherein the binding assay detects displacement of a labeled ligand from said T1R1 polypeptide.

262. The method of claim 235, wherein said binding assay is a fluorescent polarization or FRET assay.

263. The method of claim 235, wherein binding of the compound to T1R1 polypeptide is detected by a competitive binding assay.

264. The method of claim 235, wherein the binding of the compound to said T1R1 polypeptide is detected by a non-competitive binding assay.

265. The method of claim 235, wherein the binding assay uses an intact or permeabilized cell that expresses said T1R1 polypeptide.

266. The method of claims 235, wherein the binding assay detects release of a compound from said T1R1 polypeptide.

267. The method of claim 235, wherein the binding assay detects binding or modulation of the binding of another compound to a T1R1 polypeptide based on a detectable change in fluorescent absorbance or refractive index.

268. The method of claim 235 which is a high throughput binding assay.

269. The method of claim 268 which screens a library of at least 1000 compounds.

270. The method of claim 269, wherein said library is a combinatorial chemical library.

271. The method of claim 235, which further includes step (3) whereby the effect of said putative taste modulating compound is assayed in a human taste test.